AST52 Compact K=10.0/cm Cell Contacting Conductivity Sensors for Inline, Immersion & Submersible Installations

The AST52 offers a small footprint for the high cell constant K=10.0/cm with economical pricing & customizability for the materials of construction of the insulator, electrodes & sensor body (threaded process connection). As shown above from left to right the insulator is TEFLON, CPVC & CPVC with sensor body & exposed thermowell (for fast temperature response) being 316SS, 316SS & CPVC. The material construction for the electrodes is 316SS standard with Monel, Titanium and Hastelloy C-276 being special order options.

- Dual EPDM O-ring seals ensure sensor reliability (Viton & Kalrez Optional). Front seal absorbs the brunt of chemical attack, allowing the rear O-ring to operate in a protected environment, and insure continued sealing.
- Can be used with most any mating conductivity transmitter simply by specifying proper temperature compensation element (TC). The thermowell containing the temperature sensing element in its tip is exposed directly to the stream assuring rapid automatic temperature compensation of conductivity reading for maximum accuracy.
- Process connections are ¾" NPT for inline insertion type installations up to 500 psig pressure; the rear portion of sensor is ¾" stainless steel tubing which can be gripped by a swage fitting for immersion and submersion applications.
- For use up to 1,000,000 microSiemens/cm (1,000mS/cm) with outstanding chemical resistance for a wide variety of media due to availability of multiple materials of construction for insulators and electrodes as may be required. Exact supported range will be determined by the mating contacting conductivity transmitter that is employed.
- Wetted materials of construction are 316SS standard for the electrodes and thermowell. The option to select other metals as electrode materials such as titanium, Monel and Hastelloy C-276 provides an unequalled chemical resistance capability with only minimal increase in cost. The wetted materials of construction for the insulator is CPVC standard, with TEFLON (PTFE) or PEEK available as special-order options. The wetted material of construction for the sensor body and threads is 316SS standard, with CPVC available as a special-order option.
- Cable length is 10 feet standard but extended lengths up to 100 feet as integral cable or by means of quick-disconnect waterproof and corrosion-resistant snap connections are available for ease of removal for cleaning and/or recalibration.
- Compression fitting installed onto rear of sensor for completely submersible installations when used with immersion rod or standpipe. Ideal for corrosive environments where seal on the back of the sensor may be degraded in time.

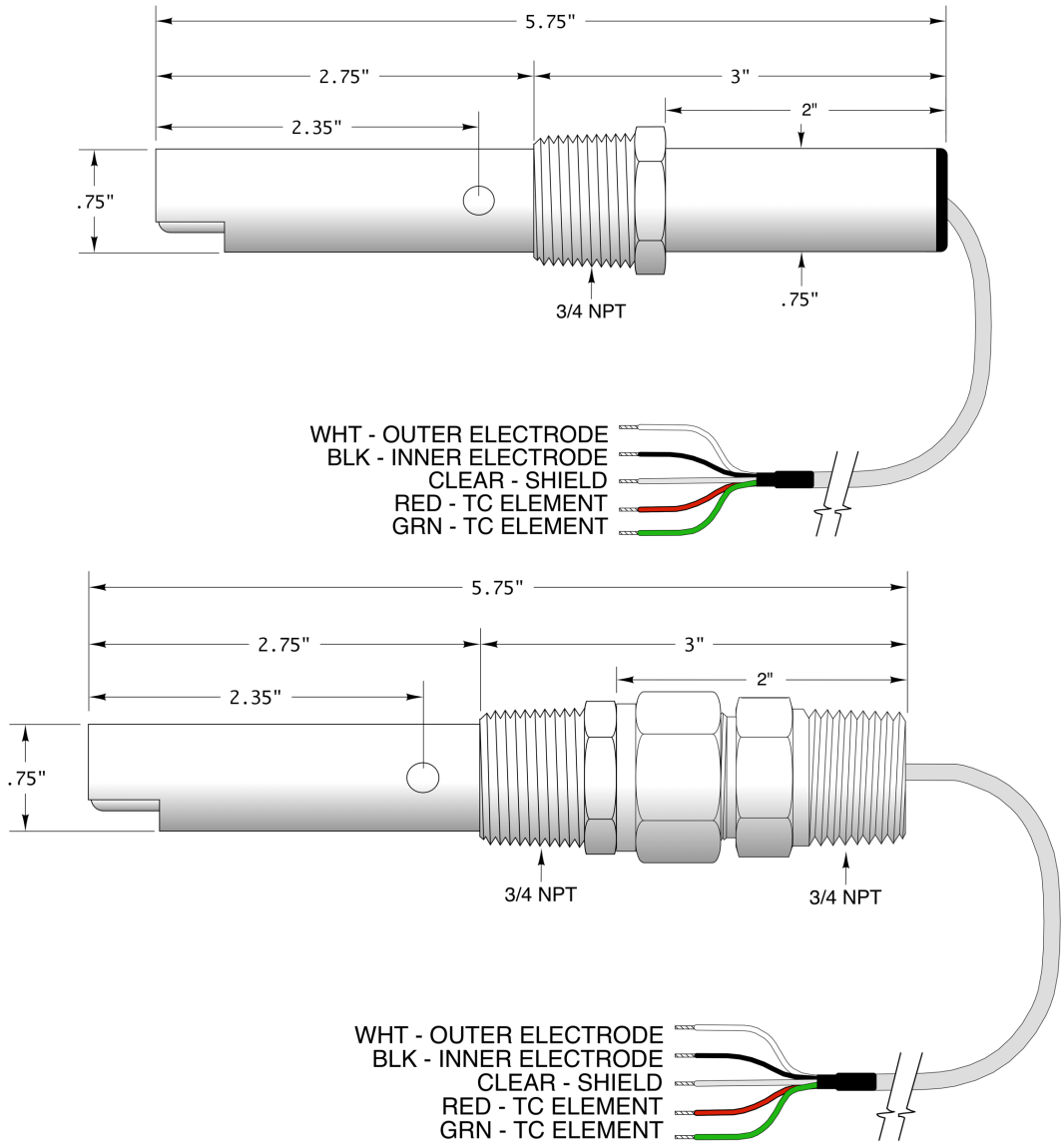
AST52 Contacting Conductivity Sensors Specifications

Measurement Range:	Dependent Upon Cell Constant and Mating Transmitter Employed *
Operating Temperature:	-35 to +95 °C (-31 to +203 °F) for AST52 with CPVC insulator **
	-35 to +120 °C (-31 to +248 °F) for AST52 with TEFLON insulator **
	-35 to +150 °C (-31 to +302 °F) for AST52 with PEEK insulator **
Operating Pressure:	Max 100 psig @ 95°C or Max 500 psig @ 50°C with CPVC Insulator
	Max 100 psig @ 120°C or Max 500 psig @ 80°C with TEFLON Insulator
	Max 100 psig @ 150°C or Max 500 psig @ 100°C with PEEK Insulator
Process Connections:	¾" MNPT Front Threads; ¾" MNPT Rear Threads with compression fitting
Wetted Materials of Construction:	
Insulator:	CPVC Standard (TEFLON PTFE or PEEK as Special Order Option)
O-Rings:	EPDM (Standard) or Viton/Kalrez (Optional as Special Order), Redundant
Electrodes:	316SS Standard; Titanium, Monel, Hast C-276 and others as special orders
Sensor Body:	316SS Standard (CPVC as Special Order Option, Max 95°C @ 80 psig)
Temperature Element:	Standard with Pt1000 or Pt100 temperature sensor; Other TC elements such a
	Balco 3K resistor and 10K Thermistor are also available upon request
Cell Constants Available for Models	
AST52:	K = 10.0/cm
Cable Length Limits:	Standard 10 feet (3 meters), Max is 100 feet (30 meters)
End of Cable Terminations:	Tinned Leads (-TL) or NEMA 6P rated waterproof and corrosion-resistant quick
	disconnect snap connector in 5-pole (Q5M/Q5F) or 4-pole (Q4M/Q4F) version
Storage and Shelf-Life:	One (1) year from date of dispatch from factory when stored at ambient.
Dimensional Details:	See following pages for drawing of each particular cell constant configuration.
Submersible Assemblies:	¾" MNPT Compression Fitting in 316SS or KYNAR materials of construction
	WPG & WPH CPVC Waterproofing Available with CPVC Sensor Body Option
Sealing Hose Options:	Braid reinforced vinyl tubing available for both WPB & WPH options
	High-Temperature Resistant NORPRENE tubing available only for WPB option

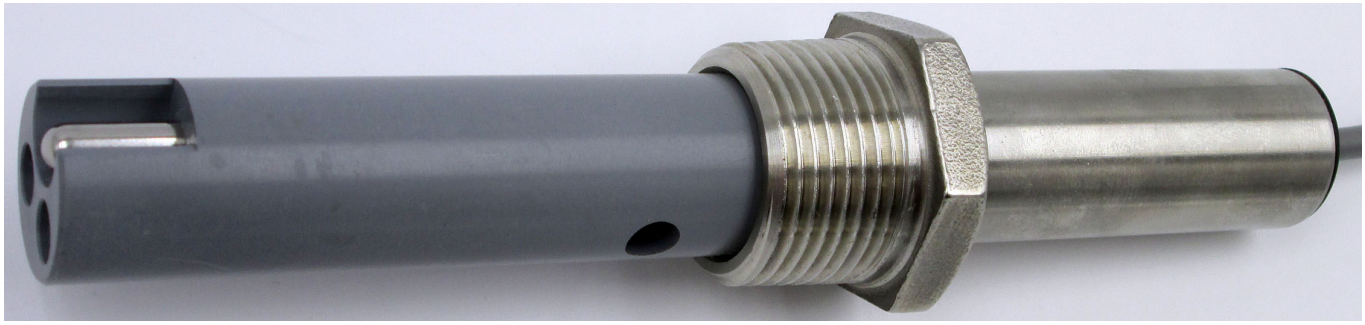
* *Contact factory to confirm that your desired measurement range is suitable for the chosen cell constant & mating instrument. This upper bound of conductivity range can vary anywhere from 200mS to 1,000mS depending upon the transmitters that is employed.*

** *Contact factory for applications where the measurement is below 0°C prior to specifying sensor for project or commissioning.*

Dimension Details for AST52 Contacting Conductivity Sensors



Drawings of AST52 cell constant configurations shown without waterproofing option. Please inquire to factory for overall sensor length and dimensional details is a waterproofing option is to be added to sensor. The compression fitting style assembly can also be used for fully submersible so long as a suitable immersion rod (a.k.a. standpipe) is secured to the rear ¾"MNPT threads.



The sensor shown above has 316SS electrodes and sensor body with CPVC insulator. The 316SS electrodes are not visible as they are located inside of the two bored holes that go along the length of the insulator and are purged by the two corresponding vent holes on each side. The exposed 316SS thermowell is, however, visible which provide for fast temperature measurement to ensure accuracy conductivity values at any process condition.

Last Revised February 19, 2018